

Result: The human pancreas cDNA library was constructed successfully. The reconstructed bait plasmid (pGBKT7-HCV NS4B) was transformed into yeast cells AH109 successfully. Eight proteins interacting with HCV NS4B were found.

Conclusion: Some of the eight pancreatic proteins may be related with metabolisms of glucose and lipid.

PP-135 The efficiency of blood-borne HCV amplification in different three dimensional cell culture systems in vitro

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Background: Immortalized human hepatocytes HuS-E/2 cells cultured in Hollow fiber (HF) support the blood-borne hepatitis C virus (HCVbb) infection in vitro. But several limits of the HF system stand in the way of its usage for HCV research. This study is to evaluate the efficiency of different three dimensional (3-D) culture systems for HCVbb amplification in vitro.

Methods: HuS-E/2 cells were cultured in different 3-D cell culture systems, HF, hydrocell plate (HP) and mebiol gel (MG). Serum and plasma from hepatitis C patients were used for infection of the cells. Plasma was pre-treated with Ca²⁺-containing solution for the infection. Cell proliferation was monitored with XTT assay. HCV amplification in 3-D cultured cells was measured with real time PCR.

Results: Stable cell proliferation was observed in both HF and MG system. HCVbb amplification in HuS-E/2 cells which were cultured in HF, HP and MG exhibited the similar patterns although the titer in cells of different systems is variational.

Conclusion: All three 3-D systems can support the proliferation of HCVbb. The selection of the system for research depends on other factors such as the objective of the research, culture condition and so on.

PP-136 Antiviral therapy of patients with decompensated cirrhosis associated with hepatitis C virus infection

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Patients with hepatitis C virus (HCV)-related decompensated cirrhosis are associated with a poor prognosis. Although liver transplantation (LT) offers an effective treatment, HCV reinfection of the transplanted graft is a critical and almost inevitable complication with major influence on graft- and patient survival. Antiviral therapy of this patient population is difficult, the use of interferon and ribavirin might expose these patients to severe treated-related side effects as a large proportion of them have pre-existing hematological cytopenias. However, antiviral treatment in patients with advanced liver cirrhosis is a potential option for two reasons: first, clearing or suppressing HCV before LT may reduce or eliminate the risk of recurrent hepatitis C in the transplanted liver and thereby improve survival; second, clearing HCV in cirrhotic patient may halt disease progression and avoid the need for transplantation. Based on AASLD and ESAL guidelines, antiviral therapy in this patient population is generally recommended, but indication, optimal timing, dose and duration of therapy are not clearly defined. In this article, the results obtained by antiviral regimens administered to HCV-related decompensated cirrhosis are discussed.

PP-137 Suppression of HCV replication in hepatocytes through a selective induction of IRF7

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Background: A high risk of chronicity is the major concern of HCV infection and chronic infection often leads to liver cirrhosis and hepatocellular carcinoma. Although proportion of patients achieving a sustained virological response has been increased by the introduction of combination therapy of pegylated-IFN- α and ribavirin, still half of the patients exhibits no response to the therapy. One of the mechanisms for the establishment of persistent infection of HCV is the escape from the host immune system. To eliminate HCV from the hepatocytes of the patients without possible cytotoxicity due to an over induction of host immunity, we generated a therapeutic construct, cMR3, by which type I IFN is selectively induced in HCV infected cells.

Methods: The cMR3 is composed of the N-terminal part of the interferon regulatory factor 7 (IRF7) possessing a dominant active function, the sequences specifically cleaved by HCV NS3/4A protease and an ER anchor, and exhibits potent IFN inducing activity in HCV infected cells. After cleavage by the HCV protease, the processed cMR3 migrates into the nucleus and activates various IFN promoters including IFN- α 6, IFN β , and IFN stimulated response element.

Results: The specific activation of the IFN promoters was observed in both HCV replicon cells and JFH1 virus infected cells upon introduction of the cMR3 but not in cells infected with JEV or DENV. Expression of viral protein and viral RNA replication were also impaired by the introduction of cMR3 into the HCV replicon cells.

Conclusion: These results suggest that the selective expression of type I IFN in the hepatocytes infected with HCV by the introduction of the cMR3 might be feasible to eliminate HCV from the chronic hepatitis C patients without liver damage.

PP-138 CD44v6 expression in HCV-infected cells and the correlation with apoptosis resistance

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Background: Hepatitis C virus (HCV) infects about 170 million people worldwide and is a major cause of chronic hepatitis, cirrhosis, and hepatocellular carcinoma (HCC). Several mechanisms have been proposed for the incidence of HCC, including apoptosis resistance. CD44, an integral cell membrane glycoprotein and adhesion molecule, plays a critical role in a number of important cellular functions including activating anti-apoptosis signal pathway. The aim of this study was to investigate the expression of CD44v6 in liver cancer tissues and to determine its correlation with apoptosis resistance via upregulated activity of the PI3K/AKT pathway.

Methods: We examined the expression of CD44 in liver cancer tissues in patients with HCV-related HCC compared with in liver tissues in health controls by Western blot and the expression of CD44v6 in HCV replicon and JFH1-infected cells compared with in Huh7 by FACS. Furthermore, we investigated the apoptosis of CD44 knockdown HCV replicon and HCV-infected cells treated by ActD compared with that in negative control cells.

Results: HCV-related HCC liver cancer tissues expressed significantly higher CD44 protein levels than tissues in health controls. Significantly higher CD44v6 were observed in HCV

replicon cells. Apoptosis resistance was showed in CD44 knockdown HCV replicon and HCV-infected cells treated by ActD.

Conclusion: These results suggested that there had an intensive relationship between CD44, especially CD44v6 expression and anti-apoptosis in liver cancer tissues.

PP-139 Cutaneous necrosis after injection of interferon alfa-2b in a patient with HCV-related decompensated cirrhosis

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Introduction: Cutaneous necrosis as a result of interferon alfa is an infrequent complication with unknown pathogenesis. We report a patient who developed local cutaneous reactions at sites of injection after the administration of interferon alfa-2b.

Case description: A 55-year-old woman with HCV-related decompensated cirrhosis treated with every other day subcutaneous injections of interferon alfa-2b (210MU) in combination with ribavirin (800mg/d). Six months later, a painful, erythematous, indurated plaque with centrally ulcerated about 1.2cm in diameter initially developed on right abdomen. One week later, an additional ulcer measuring 2cm in maximum diameter, with peripheral erythema and purulent contents, developed at the other injection site on the left abdomen (Fig. 1). Results of skin cultures were negative. A skin biopsy specimen showed the presence of ulceration with fibroplasia and vascular proliferation consistent with a re-epithelializing ulceration. The patient was advised to avoid injection on abdomen and to intramuscular injection at triangular muscle with same dose. The ulcers were treated with Mupirocin ointment, healed in 1 months, and did not recur. Our case suggests that the cutaneous lesions maybe healed without requiring interruption or dose modification of interferon after local care and change of injection site.



Figure 1.

PP-140 Difference in liver function tests in patients with chronic HCV-infection depend on some predisposing factors

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Background: Aim of the study was comparison of liver function tests, including ferritin, in patients with chronic HCV-infection depends on patients age, gender, body mass index (BMI), disease limitation, presence of anti bodies to HBV, alcohol and drug abuse.

Methods: Evaluation of albumin, bilirubin, ALT, AST, and GGT was performed in 50 patients with chronic HCV-infection by biochemical analyzer HumaStar 300. For measurement of plasma ferritin level we used two-site immunoenzymatic ("sandwich") assay. Statistic analyses were carried out with SPSS 11.0 and Excel.

Result: Level of AST was significantly higher in HCV-infected patients with obesity (BMI less than 25 – 56.8±8.0; BMI 25–30 – 59.3±11.9; BMI more than 30 – 79.4±20.1). GGT was significantly higher in HCV-infection with duration of disease more than 10 years (less than 5 years – 77.0±25.7; 5–10 years – 88.7±9.7; more than 10 – 159.2±33.6). Ferritinemia was higher in male in comparison with female (326±38.4 vs. 108.2±44.7) and in long history of HCV-infection (up to 5 years – 198.8±45.9; 5–10 years – 251.1±39.1; more than 10 – 546.5±80.8).

Conclusion: Significant difference revealed in some liver enzymes and ferritin depends on HCV-infected patients' gender, BMI and limitation of disease.

Table 1. Liver function tests in patients with chronic HCV-infection (n = 50)

Parameter	Normal range	Unit	m	SD	SE	Median	Min	Max	95% CI
Albumin	38–51	g/l	46.7	4.98	0.75	47	35	57.9	45.2–48.2
Bilirubin total	<18.8	μmol/l	12.55	7.21	1.02	10.7	3.7	39.5	10.6–14.6
Bilirubin direct	<4.3	μmol/l	3.09	2.36	0.33	2.4	0.6	12	2.44–3.75
AST	<37	U/l	60.98	46.7	6.61	48	14	250	48.0–73.9
ALT	<42	U/l	103.22	63.38	8.96	93	13	330	85.7–120.8
GGT	11–61	U/l	91.19	73.11	10.6	69.5	16	350	70.5–111.9
Ferritin	23.9–336.2	ng/dl	236.8	71.25	32.6	197.9	4.7	829.1	173.2–300.4

Table 2. Liver function tests in patients with chronic HCV-infection depend on gender, age, disease limitation, BMI, HBV past-infection, alcohol and drugs abuse

Criteria	n	Albumin	Bilirubin	ALT	AST	GGT	Ferritin
Gender							
Male	42	46.6±0.7	12.8±1.2	110.6±9.8	65.2±8.0	104.7±12.0	326.0±38.4*
Female	8	45.9±1.6	12.0±1.4	75.5±24.2	54.5±14.1	59.5±26.5	108.2±44.7
Age							
<30	13	48.0±1.4	12.5±2.4	92.2±14.8	45.6±8.0	76.7±14.1	157.3±32.1
31–40	18	45.1±0.9	12.8±1.5	115.9±18.3	75.6±15.4*	96.8±20.1	357.4±50.9
41–50	16	47.1±1.7	12.1±2.0	96.7±12.9	53.8±7.0	99.6±20.9	293.7±90.7
>50	3	43.0±4.2	13.3±2.0	109.3±49.0	78.0±26.6	71.0±8.0	90.6±18.6
BMI							
<25	21	47.1±1.2	14.4±2.0	106.0±15.9	56.8±8.0	84.0±17.8	232.7±14.5
25–30	21	45.7±1.2	10.4±1.0	90.0±13.3	59.3±11.9	92.4±16.7	335.9±63.3
>30	8	48.1±1.8	13.5±2.0	117.9±15.5	79.4±20.1*	151.5±24.3	300.6±73.9
Disease limitation, years							
<5	13	48.2±1.4	13.0±2.6	78.2±11.2	41.3±7.2	77.0±25.7	198.8±45.9
5–10	26	45.4±0.7	12.8±1.5	113.6±14.0	70.4±11.0	88.7±9.7	251.1±39.1
>10	10	47.6±2.2	12.4±0.7	126.8±19.7	77.5±16.6	159.2±33.6*	546.5±80.8*
HBcAb							
Yes	16	46.5±1.3	9.6±0.9	94.3±11.5	56.1±10.2	86.7±13.2	249.4±49.2
No	32	46.1±0.8	14.4±1.5*	113.3±12.8	68.1±9.8	100.6±15.5	313.3±49.3
IVDU							
Yes	23	46.1±0.9	12.3±1.8	109.4±13.6	54.9±7.2	85.3±11.0	326.2±47.6
No	26	46.7±1.0	13.2±1.2	104.6±12.6	72.3±11.9	110.1±18.5	262.2±52.2
Alcohol abuse							
Ectb	17	45.0±1.0	10.4±1.1	107.7±11.6	57.0±7.3	107.2±16.4	340.2±71.7
HeT	32	47.2±0.9	14.1±1.5	106.4±12.7	67.9±10.3	94.1±15.1	264.8±40.5

Values are mean±SE.

*p-value <0.05.

PP-141 Study of the serodynamics and viral clearance with Reiferon Retard® in chronic Hepatitis C patients in Egypt

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Objective: Study Serodynamics and viral clearance with Reiferon Retard® in naïve Egyptian HCV patients mostly genotype 4.

Methodology: 28 HCV patients randomly selected from 78 patients treated with Reiferon Retard®. 14 showed sustained viral response and 14 were non responders and relapsers. Assessment of serodynamics, viral load, viral clearance and genotyping were performed on blood samples collected at time of recruitment and at weeks 8, 12 and